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COUNTRY	Hungary	REPORT		
SUBJECT	<input type="text"/>	DATE DISTR.	15 APR 1958	25X1
Nagylengyel Oil Fields (Size & location, buildings, employees, hours of service & usage, security, production of oil, capacity of production, security)		NO. PAGES	1	
DATE OF INFO.	<input type="text"/>	REFERENCES	RD	
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report, in two sections, with a one-sheet sketch, concerning the Nagylengyel oil fields. The report gives the following information:

1. Size and location of the oil fields; location is shown on a sketch showing the position of the oil fields in relation to the nearby towns.
2. Installations and buildings of the oil fields, shown by means of a sketch with explanatory legend.
3. Number of employees and names and positions of important persons.
4. List of tools in the central metal-working shop and the truck shop.
5. List of vehicles belonging to the oil fields.
6. Description of drill rigs used and the method of drilling.
7. Depth and rate of production of the wells; sizes of nozzles used.
8. Type of oil produced.
9. Miscellaneous information describing the equipment used and the methods of working.
10. Rates of pay.
11. Plant police, AVH security guards and fire-fighting section.

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STATE	X ARMY	X NAVY	X AIR	X FBI	AEC				
(Note: Washington distribution indicated by "X"; Field distribution by "#").									

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29 Jan 1958

REPORT:

Nagylengyel, oil field.

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3./ Location and description:

The area extends along the east side of the road leading towards Kislenyel about 300 meters south of the town of Csonkahegyhat. On the eastern side it almost reaches the towns of Milej and Palfiszeg.

See sketch 1 attached for location.

The area itself is a hilly mountain side, from which the trees have been removed, but there are many low bushes on it.

Sketch 2 attached shows the ground plan of the ~~object~~^{Installation}; and explanation of the numbers thereon follows:

- 1) oil well with drill tower (the latter ~~are~~ 80 meters high and of steel frame); (see separate description of this); 2) through 8) same as (1); 9) through 16) tool warehouses, smith and assembly shops (minor repairs are done here at every well, they are 5 x 8 meters in size, each has 3 work benches); 17) through 24) oil tanks (painted silver, 13.5 meters tall, 5-6 meters in diameter, volume between 85 and 120 cubic meters, the lower part of the tank is sunk into the ground to a depth of 1.5 meters); 25 through 27) compressors buildings (5 x 8-meter one-story buildings, 2 simple and 2 double compressors; if one breaks down then another can be put in operation immediately; each can be driven by electric power or by fuel); 28 and 29)

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water wells; 30 and 31) gas storage (natural gas is stored here, [redacted])

[redacted]; 32) central pump house (30 x 16 meters, 25X1
32 Worthington pumps); 33) transformer building (5 x 6 meters, 8 meters
high); 34) fire fighting warehouse (two story, 25 x 10 meters, all fire
fire fighting equipment and vehicles for the area are here); 35) pipe warehouse
(30 x 15 meters, one story, the pipe yard is beside it); 36) gate keepers
shelter and telephone exchange (3 x 4 meters, one 30 station telephone
exchange, 2 gate keepers and 1 telephone operator always on duty); 37)
culture building (80 x 30 meters, 4 story, the pay roll and other offices
are here also); 38) office building (80 x 20 meters, 4 story, the technical
offices are here); 39) office building (80 x 30 meters, 4 story, the
commercial offices and council room are here); 40) fire department offices
(40 x 16 meter two story building); 41) building for industrial police
(20 x 12 meters, one story); 42 and 43) technical offices (50 x 15 meters,
three story buildings); 44) technical warehouse (50 x 20 meters, one story,
various technical goods are stored here); 45) laboratory and materials
examination (60 x 20 meters, one story); 46) research office [or, prospecting
office] (30 x 15 meters, three story); 47) central water-well; 48) mess
hall (25 x 15 meters, one story); 49) electricians shop (12 x 8 meters,
motors are repaired here, coils exchanged, ampere meters and other electric
instruments repaired); 50) central metal-smith shop (30 x 12 meters, one
story); 51 - 58) worker dwellings (35 x 8-meter barracks); 59 and 60) garages
(100 x 10 meter, one-story buildings); 61) truck shop (60 x 15 meters, one
story); 62) the main oil pipe leading towards Zalaegerszeg (50 centimeters
in diameter, buried 2 meters deep); 63) connections from tanks to pump
house (15 centimeters in diameter, ^{above} ground lines, laid right on the
surface of the ground, at crossings they go under the roads or a small iron
bridge goes over the pipes, in such places there is a thicker pipe drawn over
the regular pipe to protect it from wear and tear); 64) lines from the wells
to the tanks (the pipes lie on the surface of the ground, 10-12 centimeters
in diameter, smooth steel pipe); 65) wire fence (3 meters high, concrete
poles every 4 meters, bent in at the top); 66) main gate (5 meters high,

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two wings); 67) main factory road, there are a number of side roads, 25X1

[redacted] 68) highway between Csonkahegyhat and Kislenyel; 69) guard towers along the fence, every 400 meters (these are wood structures about 7 meters high, every tower has a search light); 70) pipe yard (all types of pipe in use are stored here, it is surrounded by a wire fence); 71) scrap iron yard (later construction is planned for this area which is very large).

All electric and telephone lines run in underground cables, [redacted] ^{Se} [redacted]

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4./ Personnel:

Director is Istvan KURUSECZ; chief of [redacted] personnel affairs [redacted] department, Gyorgy FABRANY, AVH officer; chief of experimental department, Jozsef HEGYESHALMI; the experimental department has a Russian adviser [redacted]

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[redacted] party secretary, Jene SIMON, AVH 25X1
officer; chief engineer, Arpad ##### PASZTORLAKI; laboratory engineer, Ferenc MESZAROS; technical engineer, Jozsef SZABO; prospecting engineer, Emil KISS; electrical engineer, Zoltan SZEPHEGYI; metal work engineer, VERTETICS; survey engineer, Istvan ZALATNAI; engineer in charge of pump house, Jene SZABO; assigned engineers, Zoltan KUTASSI and Arpad BENDE.

There are about 3,000 persons employed; 15 percent are women.

5./ Time of work and shifts:

Work time, 8 hours per day; the workers work in three shifts.

6./ Mechanical equipment:

a) Equipment of the central metal-smith shop (item 50 above):

10 bench lathes, 2 milling benches, 2 work benches, 8 drills, 20 vices, 3 grinders, 1 water grinder, oxy-acetylene and electric welding equipment.

b) Equipment of truck shop (item 61 above): 2 bench lathes, 1 milling bench, 1 grinder, 2 drills, washing and compressor equipment.

7./ Number of vehicles: 30 Csepel 3.5 tons; 30 ZIS 10 wheels; 5 Molotovs; 50 GMC; 30 tank trucks; 20 Caterpillar tractors; 25 Dumper tractors; 6

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Stalintes tractors; and a total of 15 passenger cars, Mercedes, Opel-Olympia, and Pobeda.

8./ Capacity:

Capacity was so large that in some cases a single well could supply the entire production needs of the Zalaegerszeg refinery. Daily capacity at one well was more than 100 wagon [one wagon equals 10 metric tons].

9./ Materials for the site:

a) The necessary mining materials came from abroad, probably from Romania.

b) The enterprise got the steel pipe from the USSR; however, there were also steel pipes of domestic manufacture in use.

10./ Drilling system:

Drilling equipment, that is, one drilling rig, consisted of the following:

One steel-frame tower, 80 meters high for suspension and moving of the shafts.

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 the normal drill

towers in the Lispe oil field are about 12-16 meters high; these, however, [at Nagylengyel] are drill towers of a new Russian type which are not dismantled after the well is opened (as is done elsewhere, Lispe, Lovasz, etc.); rather, these [towers] stay in place until the well is exhausted.

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 the depth of the wells here, or some other area or other peculiarity, made it necessary to set up wells of this type. Naturally such tall and powerful wells can be seen from far away.

The foundation of the tower is square, about 15-20 meters on a side.

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There are two sets of tackle for moving the rods.

The rods used in drilling are 15-20 meters long on the average. Their diameter is 15 centimeters, wall thickness 5 centimeters, thus the inside diameter is 5 centimeters. They are made of chrome nickel [steel]; tensile strength unknown but greater than 6,680 kilograms per square centimeter.

They were equipped with T-34-tank type diesel engines as driving machines.

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Other parts for one drill tower are: 1 crown block, 1 lifting hook, 1 turn table, 2 mud pumps, and 1 hole safe-guard (a mud pit with a hydraulically operated valve).

The mud pumps could be driven either by the T-34 engine or by an electric motor.

11./ Opening the wells:

Casing with pipe began after the wells were opened. The diameter of one of these casing pipes is 60 centimeters. However, this cannot apply to every well because the thickness of the casing pipe depends on the magnitude of the pressure.

The gap between the soil and the pipe was filled with cement. Unlike the old cementing system, the binding time for this [new system] was 8-14 days.

In very many cases, perforation was accomplished with only one shot. This also is different from the old system because then they did 32-34 shots

After this, the producing pipe is inserted. Mud exchange is done with water. After that, canalization work is done until water is no longer lifted, then production begins through the flow pipes; these carry the oil to the tanks beside the well.

The oil goes from these tanks through the pump house to the refinery.

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[The location sketch is self explanatory, all words are proper names with the exception of "l. sz. Vazlat" meaning "sketch number 1,"]

~~Layout~~
[The sketch of the area contains only one Hungarian word, "Csotolep" meaning "pipe yard".]

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7 Jan 1958

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Report:

Nagylengyel, oil field, second part.

12./ Depth and production of wells:

The depth of the wells extends to 2,800 meters. Only so-called Deep Wells are in this oil field.

There are eight operating wells in the area in the sketch, and at each of these the drilling rig is still in place. The drilling rigs will be removed only when the well is completely exhausted.

Each well could supply the daily requirements of the Zalaegerszeg refinery, which is 100 vagon [cars, one wagon equals 10 metric tons]. Thus the combined daily output of the 8 wells is 800-900 vagon at a minimum, as reported in point 8 [first part of this report].

13./ Nozzles:

The size of the nozzles -- what size of nozzle must be used -- depends on the pressure of the producing pipe and the casing pipe and on other factors. If the pressure is ^{lower}, then smaller nozzles ^{must} be used.

The size of the nozzles goes from 3 to 15 millimeters.

The primary factor to be understood under "other factors" is the relationship or proportion of gas to oil.

14./ ^(Color) ^(Composition) of oil, its quality and ^{make up}:

The Nagylengyel oil is greenish blue in color, has a ^{low} viscosity, and contains a lot of ^{gasoline} gasoline. Its make up is: 30 percent gasoline, 10 percent petroleum, 18 percent gas oil, 10 percent fuel oil, 8 percent motor oil, 4 percent gas, and 20 percent waste (used for bitumen [asphalt]).

The so-called poor gasses ~~are~~ are put back into the well through the well by means of 3 pipes and then, mixed with oil, they again come to the surface.

15./ Collection of the oil:

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The wells send their produce into the tanks built beside them; from there the oil goes through the pump house in pipes to Zalaegerszeg; at the same time, a smaller part goes from there [Zalaegerszeg ?] to Balatonfuzfo (the surplus). In addition, a certain quantity of oil is shipped by truck because the pipe system going to Zalegerszeg cannot handle alone the daily output which has grown [since it was built].

Size of the oil tanks beside the wells: 5-6 meters in diameter, 13.5 meters in height of which 1.5 meters is underground.

There are three such tanks at each well, see ground plan [first part of report].

The tanks are made of steel sheet, 10 millimeters thick with an access opening at bottom and at top, diameter 60 centimeters. The covers for these are ~~fastened~~ ^{fastened} with nuts.

The amount of oil flowing in is measured with instruments in the pump house.

There is a little building beside each well which is a smith and assembly shop. The wells are surrounded by a fire ~~dike~~ dike, which is 60-70 centimeters high. The perimeter of the dike is large enough to prevent all outflow of oil. The collection tanks are also surrounded by fire dikes. There are fire extinguishers everywhere.

A straight iron ladder leads to the top of the tanks.

The gases are pumped to Zalaegerszeg together with the oil, the pump house is in operation constantly.

The pipes are cleaned with a so called "skunk". This looks like a hairy ball. From time to time, this is placed in the pipe at the pump house and is pumped with the oil to Zalaegerszeg, where it is recovered in a so-called Tie ~~pit~~ (Atkotoaksha) in the refinery.

As this goes through the pipe, it ^{makes} gives a sound which causes those who do not know what it is to believe that the oil is swishing in the pipe.

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The long distance pipe lines are insulated with Szekurit (sacking bound on with hot tar).

The pipes are insulated with bitumen at the weldings and at the flanges ("flansni"). This is done as follows: at these places they dig pits 1 x 1 meters [square] and pour in hot bitumen. Then they cover them with earth.

Explanation of the "flansni": There is a ~~rim~~ on the pipes at the two ends for connecting purposes. These rims are connected together with a 3/4-inch nut. Klingerit (a red-colored ~~sealing~~ material) is used as ~~a seal~~ between the rims.

16./ Omitted data:

a) The pipe through which the oil comes from the well is 50 centimeters in diameter. There are three pipes built in beside this pipe; the gases are forced back into the well through these three pipes to give a separate pressure to the well. The diameter of these pipes is 2.5 inches.

b) The destination of the oil shipped out by truck is not known to him.

17./ Wages:

The director gets 3,500 [forints per month] plus premiums and so-called social allowances; chief engineer, 2,800; engineers, 2,000 - 2,500; party secretary, 1,800; chief accountant, 1,600; skilled workers, 1,200 - 1,500; un-skilled workers, 700-800; ^{Plant} Industrial police, 1,100 - 1,200.

18./ Morale: as bad as imaginable. The workers are outraged by the hard work and the bad pay. In consequence, work discipline is at a minimum.

19./ Security:

a) ^{Plant} Industrial police: two platoons of 36 men each; the platoons relieve one another every 24 hours; armed with rifles and hand grenades; commander, KOHALMI, assigned here from the AVH.

b) Five AVH men in civilian clothes were assigned for surveillance of the area. The nearest blue AVH centers are in Zalaegerszeg and Lenti.

c) Fire department: 60 men and 4 fire trucks. There is a large quantity

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of powder, gas, and chemical foam equipment at each well.

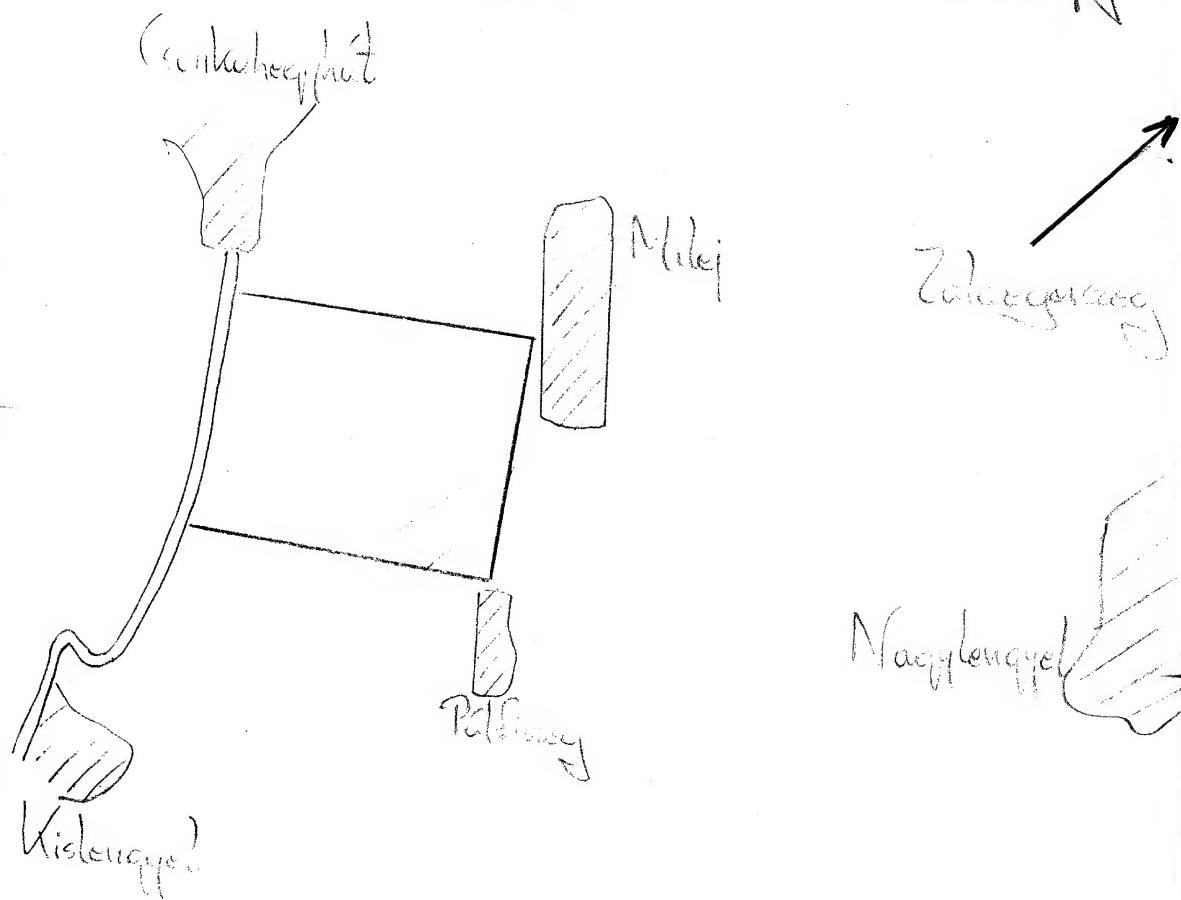
d) Air attack defense and civil defense:

The ^{plant} ~~industrial~~ police perform this service, however, the workers are also trained by means of courses. Thus, if necessary, everybody could be in this service by turns.

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Sketch 2

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